

5 Feet, or 11 *Paris* Miles (at 2000 Toises the Mile) 232 Toises, 5 Foot. But as in order to determine the whole Height of the Atmosphere, the Logarithm of 1^{'''} ought to be deducted from the Logarithm of 336^{'''} or 28^{''} 0^{'''}, and as that Logarithm is 00000, it follows from thence, that beyond the Place, where the Mercury would descend to 1^{'''}, the Air is expanded into an Indefinite Space.

For the Satisfaction of the Curious, I have added the Tables themselves, to wit, those which *Cassini* the Younger calculated according to the Rules of *Mariotte*, those which he deduced from the Observations made by the Gentlemen of the Royal Academy of Sciences, who drew the *Meridian* Line, and those which my Uncle calculated from the Observation made at *Pfeffers* in 1709.

In another Paper on this Subject I intend to compare the Height of Mountains, as determined by divers antient and modern Writers, with the true Height of them, as it appears to be by the Barometrical Observations, particularly those made by my Father on the high Mountains of *Swisserland*.

II. *Observations of a Difference of Sex in Mistleto, in a Letter from the Reverend Mr. Edmund Barrel to Sir Hans Sloane, Bart. &c.*

S I R,

AFTER I had mentioned my being pretty well assured, that the Plants of Mistleto were some of them Male, and some Female; and had promised to

communicate to you, such farther Observations as I should make of that Matter; I was discouraged from giving you any Trouble about it, by an Information I received, that the *eminently learned Dr. Herman Boerhave* had already told the World of a Difference of Sex in Mistleto. But having, since that, seen the *Historia Plantarum*, which is published as of his dictating; I find, that he mentions it in such a Manner as makes me suspect, that he only took his Notion from *Tournefort*, and was not fully apprized of the true Nature of these Plants. *Ovarium alio à Flore loco natum* seems to suppose both Flower and Ovary to be on the same Plant, though in *distinct Places* of that Plant. I have therefore now written down my Observations for your Perusal in the same Order that I made them.

I have (from my own sowing of the Berries) four thriving Plants of Mistleto growing on one Tree in my Garden. These, being often in my View, gave me the first Apprehension, of there being any Difference of Kind, or Sex, in this Shrub. They were not of Age to bear Flower or Fruit till 1726; when one of them bore a Berry or two; and expecting that they should all do so the following Year, I frequently examined them, and found that two Plants had Berries, and two had none. I then went and examined the Mistleto on other Trees, which have Plants of above 20 Years Growth. And I find the Method of Nature to be thus.

Dr. *Grew* observes, that many Plants make a visible Preparation in the former Year for the Flower and Fruit of the next Season. This is done by Mistleto. At the latter End of *May*, the Male Plants put out
little

little Knobs, at the Joints and Tops of their Boughs; which at first are not very unlike the young green Berries; but they soon appear evidently distinct from them, and being by the latter End of *July*, grown as large as the Berries, are then not at all like them; spreading wider upwards, and having 3, or 4, or 5 *Buds*, at the Top of each Knob. About *June*, the Female Plant also makes a like Preparation; putting out at the Joints and Tops of the Boughs, Knobs, which are more sharp, and shorter than those of the Male; with 1, or 2, but most commonly with 3 *Buds*, or small Points at the Top of each Knob. I call them *Buds*, because in their Season they open into Flowers, both in the Male and Female Plants; all the rest of the Knob serving only for Footstalks to the Flowers, in the one Sort, and to both Flower and Fruit in the other. By the latter End of *August* the Berries are grown much larger than the Knobs on the Male Plants. And from thence, till late in *January*, there is little worth Remark in either Plant; only the Berry grows somewhat bigger, and becomes ripe; and the Knobs on the Male grow more and more yellow; so that one may, at that Time, discern a Male from a Female Plant, at a considerable Distance. By the 20th of *February* Mistletoe is in Bloom, both Male and Female. The Knobs of the Male are open at the Top with 3, or 4, or 5 Blossoms; which are very well described (though in short) in *Boerhave's Historia Plantarum*.

The Female Plant flowereth also now, with a Blossom (which *Boerhave* calls the Ovarium) exactly like the Male Flower; save only, that the whole Female Flower is not bigger than one Leaf of the Male

Flower. They both continue in full Bloom till the Middle of *March*, when the Male Blossoms begin to wither and drop off. And by the 20th of *March* the young Berries begin to shew themselves, swelling forth, one under each Female Blossom; which often adheres to the Top of the Berry; and being carried up with it, presently withers, and soon falls off again; tho' some continued on till the 12th of *May*, when the Berries were of the Size of a great Pin's Head.

This compleated the Year's Observation. And I think it is much to be wondered at, that this Plant, which hath been the Admiration of all Ages, should (scarce ever) find one Observer so curious as to follow the Changes of it, through one whole Year's Revolution. For if this had been done with any Accuracy, it must have been very evident, that one Sort of *Miseto* was very different from the other: One Sort bearing very small Flowers, with Berries succeeding them: the other bearing much larger Flowers, not succeeded by any Berries; the very Footstalk of the Male falling off with the Flower; whereas the Footstalk of the Female, becomes a Footstalk to the Berry. It is possible, that this Difference of the Sex, in the Plants of *Miseto*, may be of Consequence in Medicine: To those therefore, who would make any Experiments of the different Virtues of these Plants, I offer this *general Observation*: That there is no Time of the Year wherein the Difference of these two Sorts, or Sexes of *Miseto*, is not very easy to be seen and known, by the Marks I have mentioned: And the meanest Herb-woman, will soon have Skill enough to bring the Sort they are ordered to procure; there being as
great

great a Plenty of the Male Plants as there is of the Female. I follow your Commands, rather than my own Inclinations, in giving you this Trouble, and am, with the greatest Respect,

S I R,

Your most obliged, and

*Sutton, near Dartford,
August 20, 1728.*

most obedient humble Servant,

Edmund Barrell.

III. *An uncommon Sinking of the Ground in Kent.
Communicated in a Letter to Mr. Peter Col-
linson.*

S I R,

IT is within this three or four Days, that I have first been able to get a more particular Account of the sinking of the Lands at *Lymne* in *Kent*, and even now, perhaps, it will be but an imperfect one.

It is now about two Years since it happened, and was the Consequence of a very wet Season, when the Waters, that had fallen on the *Up lands*, and were not carried off by Drains, soaked into the Ground in such Quantities as to form a quick Sand at some considerable Depth in the Earth (at least this is what we look on to have caused the Phænomenon) which not being able to bear the Weight upon it, broke out at the Side of the Hill,